

## Patent claims:

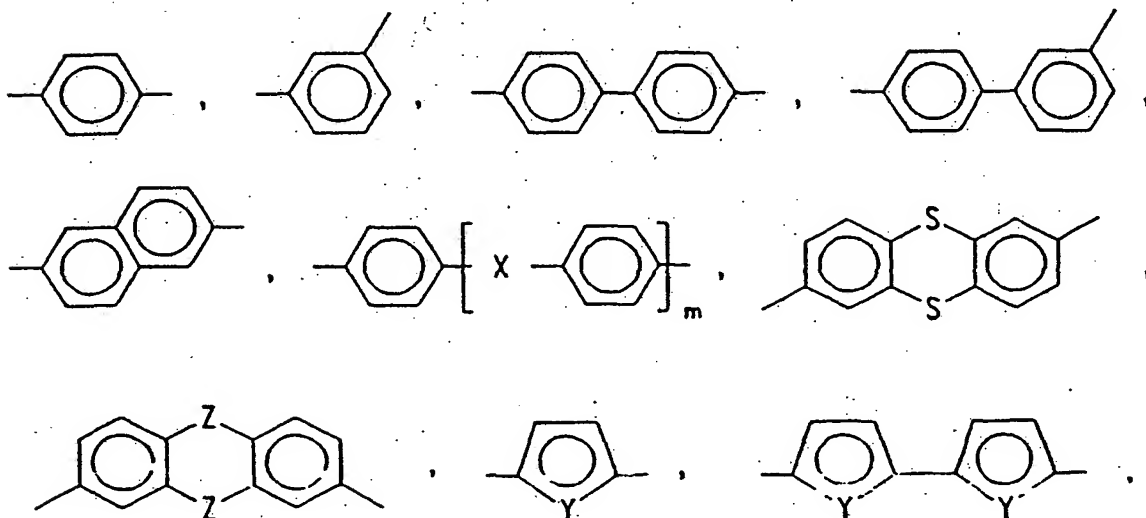
1. The use of a polymer containing structural units of the formula (I)

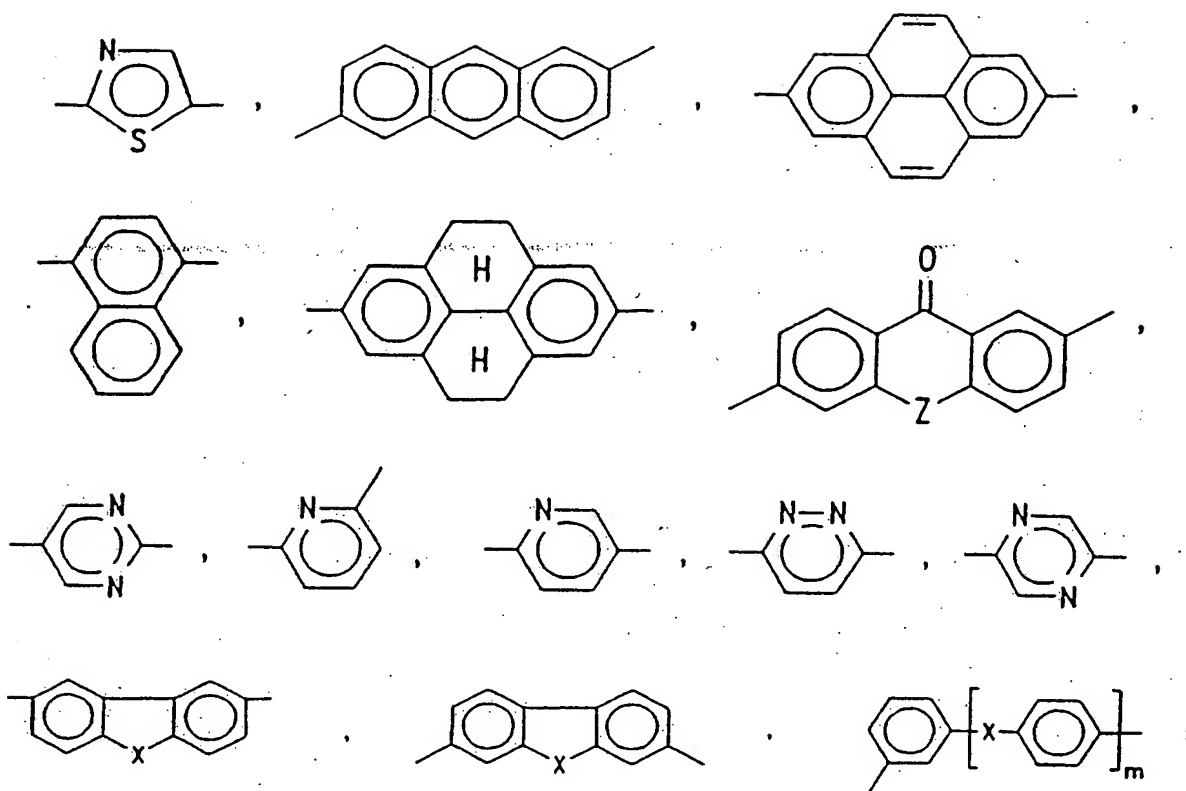


- 5 in which  $A^1$ ,  $A^2$  and  $A^3$  are identical or different mono- and/or polynuclear aryl and/or heteroaryl groups which are optionally linked via one or more bridges, preferably one bridge, and/or fused and can optionally be substituted, and in which  
10 in each case two bonds originate from  $A^1$  and  $A^3$  and in each case one bond originates from  $A^2$ , as electroluminescence material.

2. The use as claimed in claim 1, wherein the polymer containing structural units of the formula (I)  
15 contains 2 to 1000 structural units.

3. The use as claimed in claim 1 and/or 2, wherein the symbols in the formula (I) have the following meaning:  
 $A^1$ ,  $A^3$ : are identical or different





where  $m = 1$  to 20, preferably 1, 2 or 3, particularly preferably 1, preferably only for  $A^3$  is  $m > 1$ ,  
 $A^2$ : has the same meanings as  $A^1$  and  $A^3$  and is identical  
to or different from  $A^1$  and  $A^3$ , of the two possible  
5 bonding sites to the polymer, in each case only one  
being realized;

$A^1$ ,  $A^2$  and  $A^3$  can be substituted here independently  
of one another by one or more radicals R;

10 X: a single bond, -O-, -S-, -SO-, -SO<sub>2</sub>-, -CRR-,  
-CR=CR-, -CH<sub>2</sub>-CH<sub>2</sub>- or -CHR-CHR-;

Y: -O-, -S- or -NR'-;

Z: identical or different -O- or -S-;

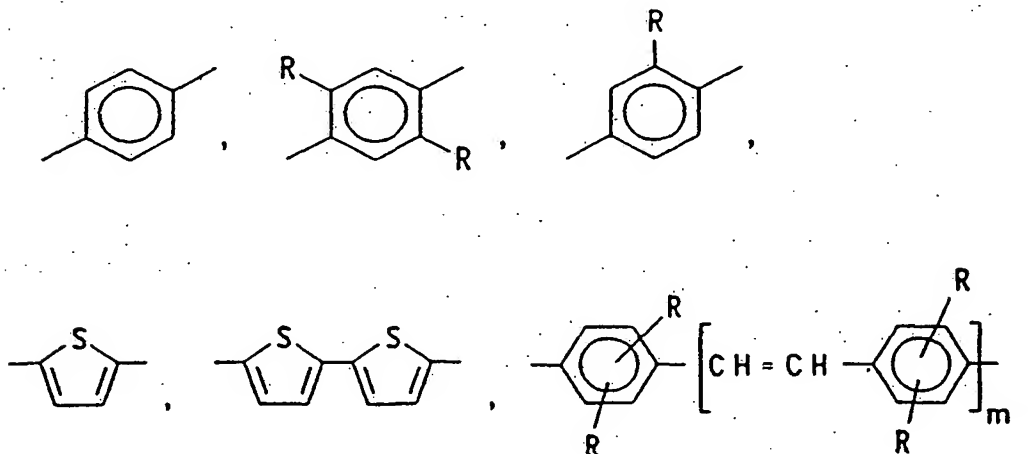
R: identical or different at each occurrence and  
being H or an alkyl group having 1 to 12 carbon

atoms, it also being possible for one or two non-adjacent CH<sub>2</sub> groups to be replaced by -O-, -S-, -CO-, -CO-O-, -O-OC- or -Si(CH<sub>3</sub>)<sub>2</sub>-, -CF<sub>3</sub>, -Ph, -O-Ph, -S-Ph, -SO-Ph, -SO<sub>2</sub>-Ph, F, Cl, Br, I or -CN;

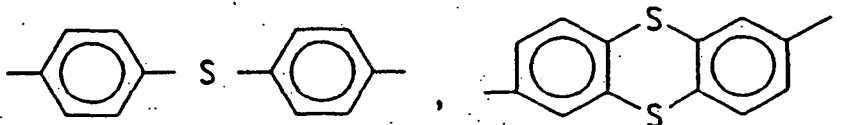
R': H, an alkyl group having 1 to 12 carbon atoms or -Ph.

4. The use as claimed in one or more of the preceding claims, wherein the symbols in the formula (I) have the following meanings:

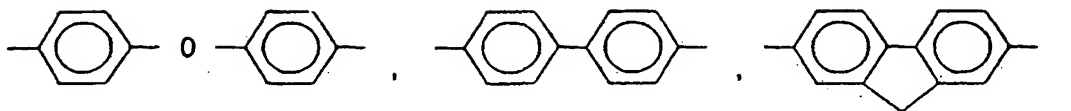
A<sup>1</sup>, A<sup>3</sup>: are identical or different



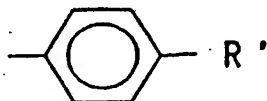
where m = 1 to 20, preferably 1, 2 or 3, particularly preferably 1, R is preferably H, preferably only for A<sup>3</sup> is m > 1,



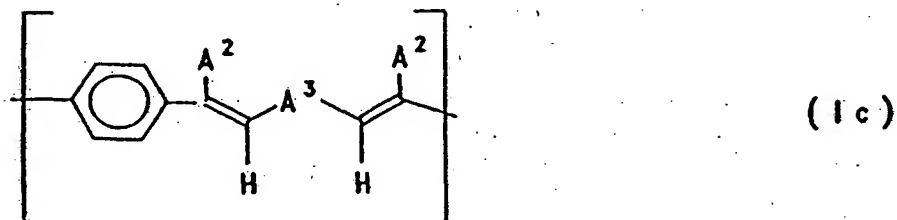
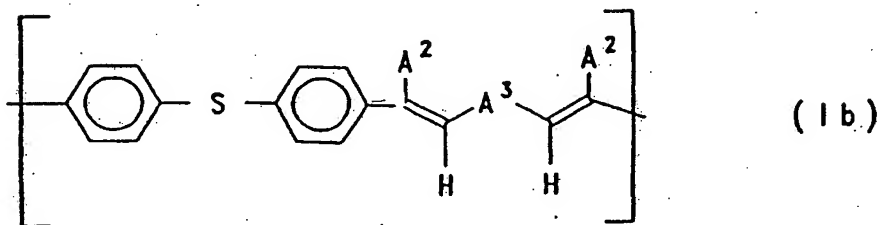
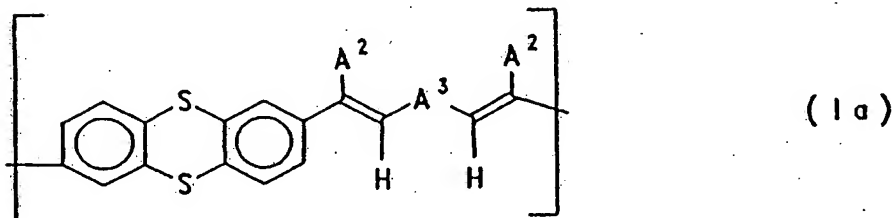
A<sup>2</sup>: has the same meanings as A<sup>1</sup> and A<sup>3</sup> and is identical to or different from A<sup>1</sup> and A<sup>3</sup>, of the two possible bonding sites

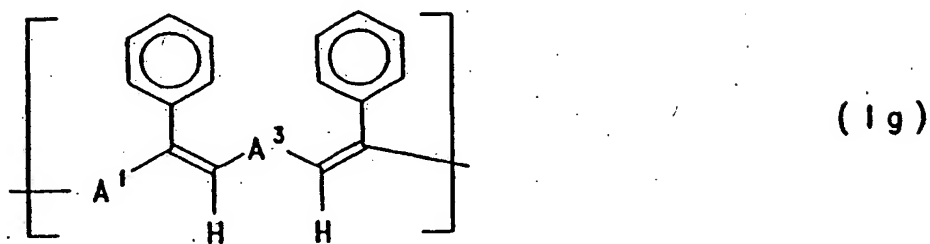
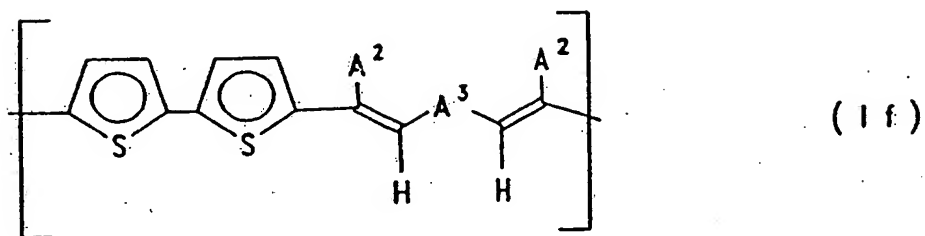
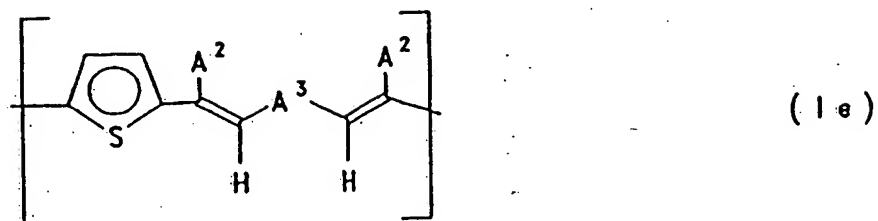
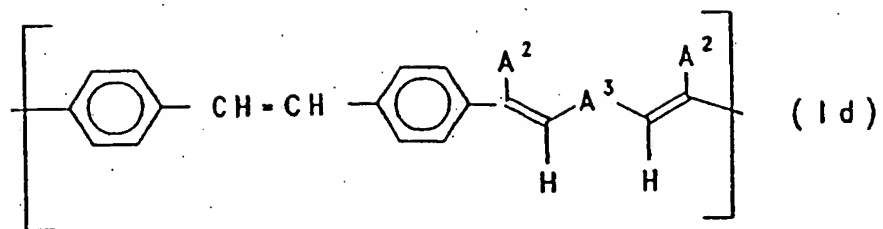


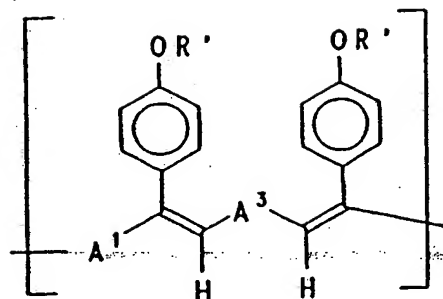
to the polymer, in each case only one being realized, or is



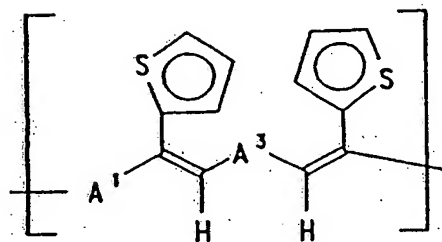
5. The use as claimed in one or more of the preceding claims, wherein the polymer containing structural units of the formula (I) originates from the group (Ia) to (Io)



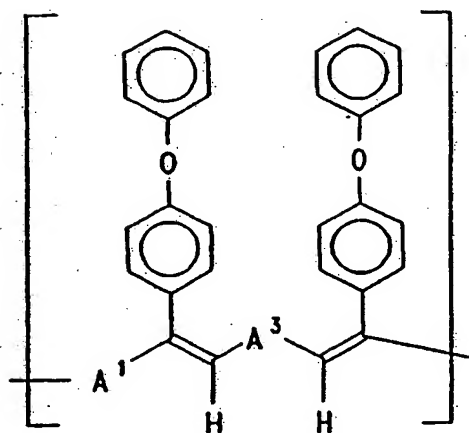




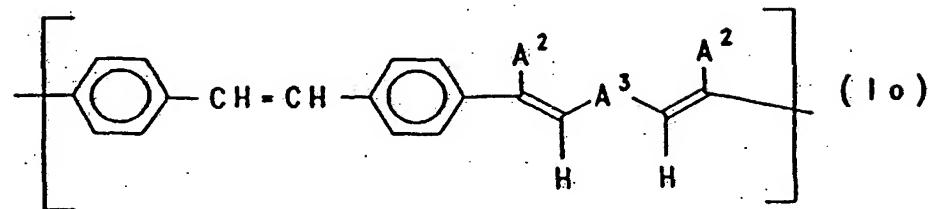
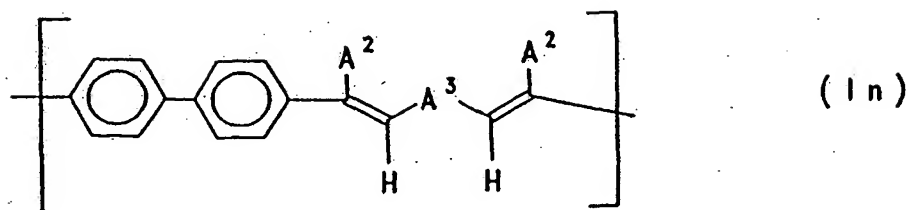
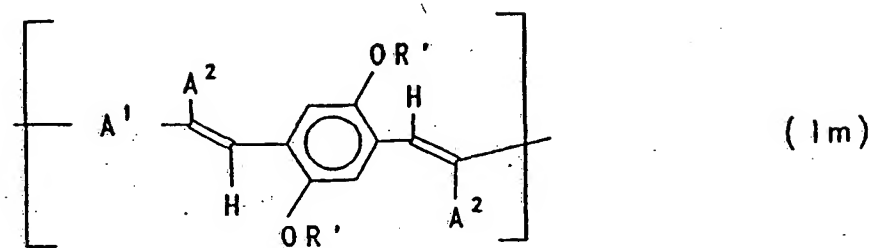
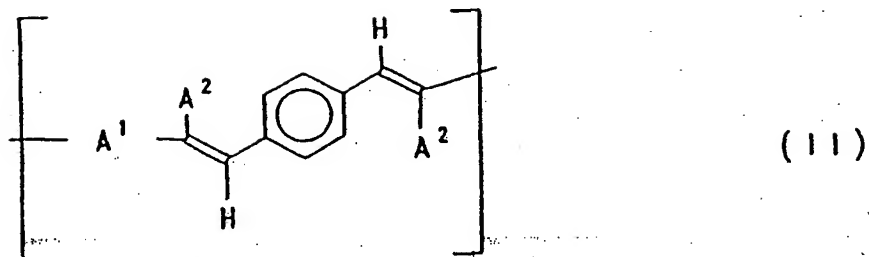
(1h)



(1i)



(1k)



in which A<sup>1</sup>, A<sup>2</sup>, A<sup>3</sup> and R' have the meanings given in formula (I).

6. The use as claimed in one or more of the preceding claims, wherein a copolymer containing structural units of the formula (I) is employed.

7. An electroluminescence material comprising one or more polymers containing structural units of the formula (I) as claimed in one or more of claims 1 to 6.

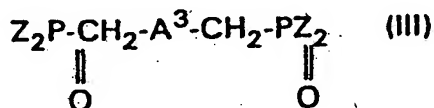
5 8. A polymer containing structural units of the formula (I)



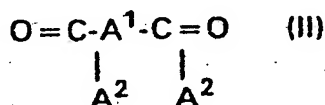
10 in which  $A^1$ ,  $A^2$  and  $A^3$  are identical or different mono- and/or polynuclear aryl and/or heteroaryl groups which are optionally linked via one or more bridges, preferably one bridge, and/or fused and can optionally be substituted, and in which in each case two bonds originate from  $A^1$  and  $A^3$  and in each case one bond originates from  $A^2$ ,  
15 with the proviso that one of the radicals  $A^1$ ,  $A^2$  or  $A^3$  must be a heterocyclic radical.

9. A process for the production of an electroluminescence material, which comprises

20 a) subjecting an organophosphorus compound of the formula (III)



to a condensation reaction with a diketone of the formula (II)



under the action of a basic condensing agent, to give a polymer containing structural units of the



formula (I)



in which  $A^1$ ,  $A^2$  and  $A^3$  are identical or different mono- and/or polynuclear aryl and/or hetero-aryl groups which are optionally linked via one or more bridges, preferably one bridge, and/or condensed and can optionally be substituted, and in which in each case two bonds originate from  $A^1$  and  $A^3$  and in each case one bond originates from  $A^2$ ; and

b) applying the resulting polymer in the form of a film to a substrate.

10. An electroluminescence device having one or more active layers, wherein at least one of these active layers comprises a polymer as claimed in one or more of claims 1 to 6 as electroluminescence material.